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## A SIMPLE INSECT REARING CAGE.

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One of the major problems of this laboratory for the past few years has been the rearing of Noctuid larvae in connection with the work on the Pale Western Cutworm, *Porosagrotis orthogonia* Morr. For the most part the larvae have been reared in seamless tin boxes but there is always difficulty with the later instars in that the cans have to be very thoroughly cleaned every day or they become very dirty and rusty. Since pupation among the Agrotines normally takes place in an earthen cell below the surface of the ground the larvae have to be removed from the cans about this time or the pupae have to be moved later. The moths do not emerge and develop normally unless there is some soil or some object up which they can climb for the period of drying.

In order to get around some of these troubles a cage was used for a time that was made of a seamless tin box four inches deep and four inches in diameter with a screen top made of 24 mesh screen wire. Except where accurate records were to be kept on the moults and head measurements these cages seemed to be very successful. The main drawback was that the only observation point was from the top of the cage and that usually the observer was in his own light. If more careful observations were wanted the top had to be removed from the cage and when dealing with moths this was not always a safe procedure. The tin boxes had one advantages over most of the cages in general use, such as the lamp chimney and mica chimney cages and that was that they could be packed up and moved about from one place to another without taking up too much room and without danger from breaking.

The cage which is now used at this laboratory and which is the best one used so far is made from the "Kerr Wide Mouth Mason" fruit jar. These jars are made in the pint, quart and two quart sizes all having an extra wide mouth. The tops are composed of a brassed ring which screws on to the top of the jar and a disc of the same material with a self-sealing rubber ring on it. For the purposes of the cage a disc of screen wire or perforated strainer tin is soldered into the top of the ring and if a solid top cage is needed the original disc is placed on top of the jar and the cover screwed on in the ordinary way. The screen allows for ample ventilation and the cages never "sweat." At the same time the open top is firm and solidly fastened to the cage and there is not the trouble of removing it that there is with removing the cloth top from a lamp chimney cage.

The pint jars are shallow and broad and make excellent cages for observations where no great amount of soil is needed. These cages have been found ideal for securing eggs of many species of Noctuids because there is plenty of room for enough soil for oviposition and sprigs of vegetation can be added for those species which may prefer to oviposit on a food plant. The quart jars are

better for rearing noctuid larvae since there is room for two or three inches of soil in the bottom of the cage without crowding the space for vegetation and food supply. For first instar larvae it has been found best to use the solid top instead of the screen and then unless the soil is very dry there is liable to be some "sweating." With a very dry soil much of the excess moisture will be absorbed. The two quart jars have been found very useful in grasshopper rearing work.

These jars are sold in corrugated cardboard cartons and these cartons have been found very handy when the cages were to be carried from one place to another in a car. A case of these cages is always found in the car of this Laboratory during the summer and the ease with which the jars can be opened has made them exceptionally useful in collecting living material of any kind.

## PENTATOMOIDEA FROM WESTERN CANADA

BY DAYTON STONER,

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A recent shipment of Pentatomoidea from Mr. K. F. Auden of Vancouver, B. C., contains a number of species which are of some interest from the standpoint of distribution in Western Canada. Since at least two of these records are new for the region and certain others add to the known distributional area both in altitude and latitude the aim of the present account is to make these definite locality records available for general use and to give some brief comments regarding the occurrence, variation, etc. of certain forms.

Papers on Canadian representatives of this group have appeared from the pens of Drs. E. P. Van Duzee, H. M. Parshley, Mr. W. Downes, and the writer during the past few years. In one of these, Dr. Parshley made the following prediction regarding Hemiptera in Western Canada: "As further collecting is done in the more remote parts of the Province (British Columbia) the proportion of characteristic western species will rise.*

This prophecy is fully borne out by the forms recorded herein.

While by far the largest share of the collection here reported upon, 117 specimens in all, was taken by Mr. Auden, additional collectors in the persons of D. M. Auden, A. R. Fee, G. A. Hardy, and J. W. Winson have contributed material.

All the species listed below were taken in British Columbia.

Family SCUTELLERIDAE

*Homaemus aeneifrons* (Say). Seven specimens of this common western form are in the collection. Merritt; June. The usual amount of color variation is to be noted in these specimens.

*Homaemus bijugis* Uhler. Merritt; July and August. Victoria; August.

*Eurygaster alternatus* (Say). Six specimens. Merritt; June. Victoria; June and July.

*Vanduzeeina balli* Van D. Eleven specimens, eight males and three females, make up the lot of this interesting species which was first described from Colorado and California material. The present record is from Kamloops; May 23. Previously recorded from Chilcotin, B. C. (Parshley, *l. c.* 2) which is about

*—Parshley, H. M., A Report on some Hemiptera from British Columbia. Proc. B. C. Ent. Soc., No. 18, 1921, 1.

140 miles north of the locality here cited.

Family CYDNIDAE

*Corimelaena anthracina* (Uhler) Huntingdon; April 26 and Merritt; June.
*Corimelaena montana* Van. D. Merritt; June. Fourteen specimens.
*Thyreocoris pulicarius* (Germ.) Huntingdon; April.

Family PENTATOMIDAE

*Peribalus abbreviatus* (Uhler). Oliver; May 21.
*Peribalus limbolarius* Stal. Huntingdon; April 26. Vernon; May 18.
*Trichopepla californica* Van D. Six specimens all from Garibaldi; Sept. 10. This western species looks very much like *T. atricornis* Stal but may be distinguished from it by the somewhat smaller size (average), the generally darker coloration, the shorter head, rounded on the anterior margin, and by the short black line on either side of the venter.

Mr. Auden, the collector, writes me as follows concerning the species: "It was fairly common on the fruiting heads of *Anemone occidentalis* at an elevation of 6,000 feet or over." First recorded from the region by Downes (Proc. British Columbia Ent. Soc., 1924).
*Trichopepla aurora* Van D. One specimen, Merritt; June. The hemelytra and the basal half of the pronotum are deep pinkish while the head and apex of scutellum are slightly suffused with the same color. I have in my collection an additional specimen from Rist Canyon, Colorado, taken June 17.
*Chlorochroa uhleri* Stal. Victoria; August 12.
*Carpocoris remotus* Horvath. Merritt; June, July, August.
*Euschistus euschistoides* (Voll.) Huntingdon; April 26. Burnabay Lake; October 24.
*Euschistus consperus* Uhler. Burnabay Lake; October 4. Huntingdon; April 26; Vancouver; May 12.
*Euschistus variolarius* (P. B.) Vernon; May.
*Neottiglossa undata* (Say) Burnabay Lake; October 4. Huntingdon; April 26. Vancouver; May 6 and 12. Vernon; May 15.
*Neottiglossa cavifrons* Stal. Victoria; August 5. Two specimens which I have referred to this species exhibit a marked subcircular, concave and densely punctate excavation on the anterior part of the head in which the tylus is only slightly elevated at its base. Although these specimens do not conform in all details to typical *cavifrons* they offer more of the characteristics of that form than of *sulcifrons* and I am, therefore, placing them in the former species.
*Cosmopepla bimaculata* (Thomas) Burnabay Lake; October 4. Huntingdon; June 15. Vernon; May 16.
*Eysarcoris intergressus* Uhler. Vancouver; May 12. Victoria; August 12.
*Thyanta punctiventris* Van D. A single specimen from Kamloops, taken on May 23 affords an unusual northerly distributional record for this species. The elongated and depressed form, sharply pointed scutellum, maculated connexivum, transverse row of black points near the posterior margin of the ventral abdominal segments and other definitive characters are exhibited by the specimen.
*Banasa dimidiata* Say. Vancouver; May 12.
*Elasmostethus cruciatus* (Say). Princeton; May 24. Vancouver; October 6.

*Perillus bioculatus* var. *clauda* (Say) Spence's Bridge; September 15.
*Perillus exaptus* (Say) Princeton; May 24. A single female example which most closely resembles variety *a. variegatus* Kirby as described by Van Duzee (Trans. Am. Ent. Soc., 30, 1904, 65) serves as the basis for this record.
*Apateticus bracteatus* (Fitch) Goldstream; September 16. One specimen, a female. The scutellum, hemelytra, pronotum and head are more or less suffused with metallic green which is concentrated into patches at the incisures of the connexivum, humeral angles and lateral margins of the head.
*Podisus modestus* (Dallas) Huntingdon; April 25. Vancouver; May 12.

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## A PRELIMINARY REVISION OF THE CAMPOPLEGINAE IN THE CANADIAN NATIONAL COLLECTION, OTTAWA.

BY HENRY L. VIERECK,
Ottawa, Ont.

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### Zaplatystoma egregium n. sp.

Related to Z. *ocellatum* Viereck.

*Female.* Length 7 mm.; black, scape yellowish in front, elsewhere blackish, pedicel pale stramineous and blackish, flagel pale brownish beneath, blackish above, anterior edge of clypeus bordered with a brownish stramineous margin, mandibles mostly yellow, palpi yellowish, tegulae yellow, fore coxae with the basal half mostly brownish, the apical half mostly yellowish, mid coxae mostly blackish to brownish, yellowish at apex, all trochanters yellowish excepting part of mid proximal pair and all but apical edge of hind proximal pair, hind coxae black, fore and mid femora and tibiae dark stramineous, their tarsi mostly brownish stramineous, hind femora blackish red, extensor surface of hind tibiae blackish, their flexor surface pale, hind tarsi infuscated, the first, second, third and fourth joints pale at base, hind tibiae yellowish at base; abdomen mostly black, third tergite reddish except basally, fourth tergite entirely reddish, lower half of sides of fifth and lower edge of sixth tergites stramineous, plica yellowish, the succeeding, exposed sternites pale; areola narrowly truncate at base confluent with the coarsely reticulate petiolarea.

*Holotype*—♀, Sudbury, Ont., 1892; No. 1599 in the Canadian National Collection, Ottawa.

### Zaplatystoma simplex n. sp.

Related to Z. *egregium* Viereck.

*Female.* Length 7 mm.; black, scape and pedicel yellowish in front, elsewhere black, like the basal joint of the flagel, the flagel mostly brownish beneath, blackish above, clypeus black throughout, mandibles mostly yellowish, palpi stramineous, tubercles black, tegulae yellowish, fore coxae black, yellowish apically, mid and hind coxae black, mid proximal and hind distal trochanters yellowish and blackish, hind proximal trochanters black with an apical pale margin, mid distal and fore trochanters yellowish, rest of fore and mid legs dark stramineous with their tarsi brownish, the apical joint infuscated, hind femora black, reddish apically and on the inner aspect, hind tibiae black, their base yellowish, the flexor surface mostly reddish brown, hind tarsi brownish to blackish, the first, second, third and fourth joints yellowish at base, abdomen black, apical fourth

of second tergite, all of third tergite, all but apical two-fifths of third above and halfway down on the sides, and lower margins of fifth and sixth tergites, reddish to stramineous, plica yellowish, the exposed sternites beyond rather reddish stramineous, areola truncate at base, confluent with the petiolarea and nearly as wide as long, petiolarea coarsely reticulate.

*Holotype*— ♀, Banff, Alta., July 27, 1922, (C. B. D. Garrett); No. 1598 in the Canadian National Collection, Ottawa.

**Zaplatystoma mimeticum** n. sp.

Related to Z. *simplex* Viereck.

*Female*. Length 5.5 mm.; agrees with the original description of *simplex* except as follows. Pedicel blackish, hind distal trochanters yellowish, hind femora bright reddish, their tibiae reddish stramineous, second tergite black, fourth tergite blackish above on the apical half; areola nearly twice as long as its greatest width, petiolarea rather delicately sculptured, nearly transversely costate.

*Holotype*.— ♀, Banff, Alta., July 25, 1922, (C. B. D. Garrett); No. 1597 in the Canadian National Collection, Ottawa.

**Zaplatystoma decorum** n. sp.

Related to Z. *simplex* Viereck.

*Female*. Length 7 mm.; compared with the original description of *simplex* this differs as follows.—Pedicel black, fore proximal trochanters partly black, mid proximal trochanters black with an apical stramineous margin, fore proximal trochanters black and yellow, flexor surface of fore femora black, mid tibiae black with the outer aspect and the apex brownish stramineous, hind femora black, reddish only apically, hind tibiae reddish stramineous, yellowish at base, abdomen black, save for the reddish third tergite which is black at base, the plica which is yellowish and the apical margin of the fourth and fifth sternites which is yellowish and the apical margin of the sixth sternite which is stramineous.

*Holotype*.— ♀, Hedley, B.C., July 20, 1923, (C. B. D. Garrett).

**Zaplatystoma petiolatum** n. sp.

Related to Z. *metacometi* Viereck.

*Male*. Length 5 mm.; black, scape and pedicel yellowish in front, blackish behind, flagel mostly blackish, partly brownish, clypeus yellowish laterally, mandibles mostly yellow, palpi yellowish stramineous, tubercles stramineous, tegulae yellowish with a broad nearly colorless margin, areolet petiolate, fore and mid coxae and trochanters yellow, hind coxae black, their proximal trochanters blackish, pale beneath, their distal trochanters yellow, rest of fore legs mostly stramineous, their tarsi partly brownish, hind femora reddish, darkened at base and apex, hind tibiae with the extensor surface infuscated, the flexor surface stramineous, an annulus at the base yellowish, their tarsi brownish, joints one, two, three and four yellowish at base, abdomen black, third tergite reddish save for the basal two-thirds which is mostly black, fourth and fifth tergites reddish, the sixth and seventh tergites reddish along their lower margin, plica yellowish, partly infuscated; areola confluent with the petiolarea, the former angulated at base, and nearly as long as its greatest width.

*Holotype*— ♂, Sudbury, Ont., 1892; No. 1594 in the Canadian National Collection, Ottawa.

**Zaplatystoma johnsoni** n. sp.

Related to Z. *decorum* Viereck.

*Female.* Length 7 mm.; black, scape yellowish in front, pedicel, stramineous in front, flagel with the basal third mostly yellowish brown, anterior edge of clypeus with a brownish stramineous margin, mandibles mostly yellow, palpi yellowish white, tegulae yellowish, fore coxae brownish black, the apical half mostly yellow, mid and hind coxae black, mid distal and both fore trochanters yellow, mid proximal trochanters brownish and yellow, rest of fore legs mostly stramineous, their femora with the flexor surface blackish, their tarsi more or less brownish, mid femora with their outer aspect brownish stramineous, elsewhere blackish, mid tibiae dark stramineous, pale at base, their tarsi yellowish and partly infuscated, of hind legs black, the flexor surface of their tibiae brownish, spurs whitish, tarsal joints pale at base, abdomen reddish, first segment and all but an apical margin on the second tergite black, plica yellowish, the two succeeding sternites brownish; areola narrowly truncate at base, hardly longer than its greatest width, confluent with the petiolarea, the latter transversely costate, lateral longitudinal carinae trenchant. ,

*Holotype*—♀, Glen House, N.H., July 27, 1915, (C. W. Johnson); in the Boston Society of Natural History, Boston.

**Zaplatystoma** Viereck.

(*Tryphon*?) *Zaplatystoma annulatum* Provancher.

**Sagaritis lipomerus** n. sp.

Related to *S. cingulatus* Viereck.

*Female.* Length 5 mm.; black, antennae black throughout, mandibles mostly yellowish, palpi stramineous, tegulae yellowish, fore and mid legs reddish stramineous save for their trochanters, tibiae and tarsi which are mostly paler, hind coxae black, their proximal trochanters blackish, with an apical stramineous border, rest of hind legs reddish excepting the blackish basal annulus and the blackish extreme apex, hind tarsi blackish, their basitarsi with a basal yellowish annulus, abdomen black, apical half of postpetiole, apical two-thirds of second tergite, third tergite except at base, fourth tergite except above and the lower half of the following tergites mostly reddish, plica yellowish, the following sternites stramineous; areola truncate at base, separated from the petiolarea; sheaths of the ovipositor approximately one and one-half times as long as the apical truncature of the abdomen.

*Male.* Characters essentially as in the female, the postpetiole black, the plica infuscated in part.

*Holotype*—♀, Saskatoon, Sask., R. Sept. 9, 1923, 16409, 6INI, (Kenneth M. King); No. 1616 in the Canadian National Collection, Ottawa.

*Allotype*—♂, with the data of the holotype except—R. Dec. 1, 1923, 72N8.

*Paratypes*—♀ ♀, ♂ ♂, data the same as in the holotype except as follows—R. Sept. 5, 1923, 16409-6IN3; R. Nov. 9, 1923, 16409-72N7; R. Nov. 1, 1923, 16409-74N1; R. Nov. 9, 1923, 16409-74N2; R. Oct. 9, 1923, 16409-72N4.

Cocoon whitish with black marks. In the males the apical edge of the postpetiole is more or less reddish stramineous.

**Sargaritis bigelowi** n. sp.

Related to *S. cingulatus* Viereck.

*Female.* Length 6 mm.; black, antennae black throughout, mandibles mostly yellow, palpi mostly whitish, tegulae yellowish, fore and mid coxae and femora brownish stramineous, their trochanters yellow, fore and mid tibiae and tarsi mostly paler stramineous than their femora, extensor surface of fore and mid tibiae whitish, the latter with a subbasal and an apical brownish band, mid basitarsi mostly yellowish white, the following joints brownish, hind coxae and proximal trochanters black, hind distal trochanters stramineous with a blackish stain, hind femora reddish, blackish at apex, hind tibiae blackish, whitish between the basal fourth and the apical third, hind tarsi infuscated, the basal half of the first joint mostly whitish, the second joint pale at base, abdomen black, a subapical streak on the second tergite and an apical margin to the third tergite obscure reddish, plica yellowish and blackish; areola truncate at base, feebly separated from the petiolarea, finely reticulate, the petiolarea delicately transversely costate; sheaths of the ovipositor apparently twice as wide as the apical truncature of the abdomen.

*Holotype*—♀, Macdiarmid, Lake Nipigon, Ont., Aug. 8, 1923, (N. K. Bigelow); No. 1619 in the Canadian National Collection, Ottawa.

Named in honor of Mr. N. K. Bigelow.

**Sagaritis diversus** n. sp.

Related to *S. compactus* Provancher.

*Female.* Length 8 mm.; black, including the antennae, coxae, proximal hind trochanters, hind tarsi, and first abdominal segment, mandibles mostly yellow, palpi brownish stramineous, tegulae whitish yellow with a broad, pale transparent stramineous margin, fore and mid legs mostly reddish stramineous, apical tarsal joint of fore and mid tarsi blackish, other mid tarsal joints partly brownish, fore distal trochanters stramineous, mid proximal trophanters blackish, their distal trochanters yellowish stramineous, hind distal trochanters reddish, black at base, hind femora reddish with a blackish stain at base, their tibiae darker reddish, blackish at base, second tergite black save for a broad reddish apical margin, remaining tergites reddish excepting the third which is blackish at base; areola truncate at base, confluent with the petiolarea, the basal side and lateral side of the petiolarea and areola respectively nearly forming a straight line; sheath of the ovipositor at least three times as long as the apical truncature of the abdomen.

*Holotype*—♀, Waterton, Alta., July 14, 1923, (H. L. Seamans); No. 1623 in the Canadian National Collection, Ottawa.

*Paratype*—♀, with the same data as the holotype but collected July 17.

**Sargaritis unicolor** n. sp.

Related to *S. diversus* Viereck.

*Female.* Length, 6 mm.; black, antennae, save extreme base of first joint of the flagel, all coxae and abdomen black, palpi dark stramineous, tegulae yellowish with a broad clear stramineous margin, rest of legs mostly reddish, fore proximal trochanters dark at base, mid proximal trochanters mostly blackish, hind proximal trochanters mostly black, end joints of fore and mid tarsi infuscated, hind tarsi mostly brownish; areola truncate at base, finely sculptured, confluent

with the petiolarea which latter is partly transversely costate, mostly coarsely reticulate, sheaths of the ovipositor nearly twice as long as the apical truncature of the abdomen.

*Male.* Characters essentially as in the female, areola narrowly truncate at base, petiolarea coarsely reticulate, less transversely costate.

*Holotype*—♀, Saskatoon, Sask., Aug. 23, 1923, 16410, 2N9B, (Kenneth M. King); No. 1622 in the Canadian National Collection, Ottawa.

*Allotype*—♂, with the same data as the holotype but R. March 1924, 16411, 43N1. Host *Loxostege* probably (larva) *sticticalis.*

*Paratype*—♀, Oliver, B.C., Aug. 8, 1923, (C. B. Garrett).

**Sagaritis intermedius** n. sp.

Related to *S. diversus* Viereck.

*Male.* Length 5 mm.; black, antennae and coxae black, mandibles mostly yellow, palpi dull stramineous, tegulae yellowish with a pale stramineous margin, fore and mid trochanters mostly yellowish, mid coxae yellowish at apex beneath, fore femora brownish stramineous, rest of fore legs brownish stramineous, mid femora little darker than fore femora, the basal third mostly blackish brown, mid tibiae party yellowish partly brownish, their tarsi brownish, hind proximal trochanters blackish, their distal trochanters yellowish, their femora reddish with the basal third mostly blackish, hind tibiae yellowish stramineous, the apical fourth and the basal fourth mostly blackish brown, abdomen black save for a broad pale apical border to the second to sixth tergites inclusive, on the second, third and fourth tergites this border is reddish at base and stramineous at apex, fourth, fifth and sixth tergites with most of their sides stramineous, plica yellowish; areola complete, narrowly truncate at base, petiolarea coarsely reticulated.

*Holotype*—♂, Victoria, B.C., May 6, 1919, (W. Downes); No. 1624 in the Canadian National Collection, Ottawa.

**Sagaritis medius** n. sp.

Related to *S. diversus* Viereck.

*Female.* Length 5 mm.; black, antennae blackish brown, pedicel and extreme base of flagel pale, mandibles mostly yellow, palpi pale stramineous, tegulae yellowish with a stramineous margin, fore and mid coxae dark stramineous, fore and mid trochanters pale stramineous, fore femora pale reddish stramineous like the mid femora, fore and mid tibiae mostly stramineous, partly brownish, fore tarsi stramineous, mid tarsi brownish, hind coxae black, their distal trochanters, blackish brown with an apical stramineous margin, hind femora dark reddish their tibiae dark stramineous with the basal fourth and apical third mostly blackish, hind tarsi dark brownish, the first joint yellowish at base, abdomen black, the second to sixth tergites with an apical obscurely reddish border, plica brownish; areola broadly truncate at base, complete, finely sculptured, the petiolarea comparatively coarsely rugulose; sheaths of the ovipositor longer than the apical truncature of the abdomen.

*Holotype*—♀, Sudbury, Ont., 1890; No. 1620 in the Canadian National Collection, Ottawa.

**Sagaritis rufosignatus** n. sp.

Related to *S. medius* Viereck.

*Male.* Length 4 mm.; black, antennae black throughout, mandibles mostly yellow, palpi whitish, tegulae yellowish with a broad nearly colorless margin, fore and mid coxae blackish at base, mostly yellowish and stramineous, fore and mid and distal hind trochanters yellowish, fore femora dark stramineous, their tibiae and tarsi paler, mid femora dark stramineous, their tibiae paler, partly whitish, their tarsi mostly infuscated, hind coxae black, their proximal trochanter black with a broad apical yellowish margin, hind femora reddish, blackish at base, hind tibiae yellowish stramineous at base, then with a blackish annulus, then with the flexor surface stramineous and the extensor surface whitish, to the apical third which is blackish, their tarsi blackish with the first joint yellowish at base, the second, third and fourth yellowish at extreme base, abdomen black, an apical reddish margin to the second tergite, apex of the succeeding tergites straminous, their sides partly reddish and stramineous, plica yellowish; areola truncate at base, feebly separated from the petiolarea, finely sculptured, the petiolarea rugulose.

*Holotype*—♂, Jordan, Ont., June 12, 1915, (W. A. Ross); No. 1621 in the Canadian National Collection, Ottawa.

**Sagaritis lipopus** n. sp.

Related to *S. medius* Viereck.

*Female.* Length 5 mm.; black, antennae blackish, scape, pedicel, first, second and third joints of the flagel, yellowish at apex, the first joint of the flagel also yellowish at base, mandibles mostly yellow, palpi yellowish, tegulae yellowish with a pale stramineous margin, fore and mid coxae brownish, the rest of fore and mid legs stramineous, hind coxae blackish, their proximal trochanters blackish at base, elsewhere dark stramineous, the remainder of the hind legs stramineous, with their tarsi somewhat darkened, abdomen black to blackish brown; areola narrowly truncate at base, finely reticulated, confluent with the petiolarea which is transversely costate, outer sides of the areola and petiolarea forming a straight line save for the angulation at the costulae; sheaths of the ovipositor exserted, abdomen not truncate at apex.

*Holotype*—♀, Trenton, Ont., July 21, 1907, (Evans); No. 1617 in the Canadian National Collection, Ottawa.

**Sagaritis cingulatus** n. sp.

Related to *S. lipopus* Viereck.

*Female.* Length 7 mm.; black, compared with the original description of *S. lipopus* this differs as follows—Fore and mid coxae blackish at base and above, elsewhere brownish stramineous, hind coxae mostly black, partly brownish beneath, abdomen black with an obscurely reddish, apical border to the second tergite, sides of the areola and petiolarea, biangulate, the areola finely sculptured, the petiolarea coarsely irregularly reticulate; abdomen truncate at apex, the sheaths of the ovipositor nearly twice as long as the truncature.

*Male.* Characters essentially as in the female but fore and mid tibiae and tarsi partly whitish, hind tibiae partly blackish, hind coxae black throughout, antennae black, except for the first joint of the flagel which is pale brownish at base.

*Holotype*—♀, Jordan, Ont., Aug. 11, 1914, (W. A. Ross); No. 1618 in the Canadian National Collection, Ottawa.

*Allotype*— ♂, data as in the holotype excepting date of capture which is Aug. 26.

*Paratype*— ♀, with the same data as the allotype.

**Sagaritis atypicus** n. sp.

Related to *S. compactus* Provancher.

*Female.* Length 6 mm.; black, antennae black with the underside of the basal third more or less brownish, mandibles mostly dark brownish stramineous, palpi pale stramineous, tegulae yellowish with a stramineous margin, fore and mid coxae black above and at base, brownish stramineous beneath, rest of fore and mid legs concolorous with the underside of their coxae, hind trochanters and femora reddish, their tibiae brownish stramineous except on the basal half of the extensor surface which is partly yellowish stramineous, their tarsi brownish stamineous, plica blackish yellow; areola broadly truncate at base, finely sculptured, confluent with the petiolarea, at least twice as wide as long, petiolarea almost conspicuously transversely costate, more distinctly sculpured than the areola; sheaths of the ovipositor apparently twice as long as the apical truncature of the abdomen.

*Holotype*— ♀, Aylmer, Que., May 25, 1924, (C. H. Curran); No. 1625 in the Canadian National Collection, Ottawa.

**Sagaritis apicalis** n. sp.

Related to *S. conjunctus* Cresson.

*Male.* Length, 4 mm.; black, antennae blackish throughout, mandibles mostly yellow, palpi stramineous, tegulae yellowish with a stramineous margin, coxae and femora reddish stramineous, fore, mid and distal hind trochanters yellowish, hind proximal trochanters blackish and dark stramineous, flexor surface of fore and mid tibiae stramineous, the extensor surface and their tarsi mostly whitish, hind tibiae blackish, whitish at base and with the middle third mostly whitish, their tarsi infuscated with the basal half of the first joint whitish, abdomen black, the second and third tergites apically with a reddish margin, the first tergite with an apical stramineous edge, lower edge of sides of the succeeding tergites with a broad reddish to stramineous margin; areola apparently complete, hexagonal, nearly as wide as long and more finely sculptured than the petiolarea.

*Holotype*— ♂, Ottawa, Ont., (W. H. Harrington); No. 1629 in the Canadian National Collection, Ottawa.

**Sagaritis downesi** n. sp.

Related to *S. apicalis* Viereck.

*Male.* Length, 5 mm.; black, antennae black throughout, mandibles mostly yellow, palpi yellowish stramineous, tegulae yellowish with a pale stramineous margin, fore and mid legs including coxae stramineous excepting their trochanters which are yellowish and the extensor surface of their tibiae which is yellowish-white, hind legs including part of coxae, reddish excepting coxae above and at base where they are black and the hind tarsi which are blackish save at base where they are yellowish, hind tibiae darker than their femora, abdomen reddish, first segment black except at apex of first tergite, basal three-fourths of second tergite mostly black, third tergite with a flap shaped black mark at base, fourth tergite obscurely blackish at base, first segment of plica yellowish, the succeeding

two segments infuscated; the fifth, sixth and seventh tergites marked like he third; areola nearly as wide as long, truncate at base, confluent with the petiolarea, finely sculptured, the petiolarea faintly transversely costate.

*Holotype*— ♂, Gordon Hd., B. C., May 8, 1918, (W. Downes); No. 1626 in the Canadian National Collection, Ottawa.

Named in honor of Mr. W. Downes.

**Sagaritis latus** n. sp.

Related to *S. apicalis* Viereck.

*Female*. Length 6 mm.; differs from the original description of *S. apicalis* Vier. as follows.—Fore proximal trochanters pale stramineous, mid proximal trochanters darker stramineous, fore tarsi stramineous, mid tarsi mostly brownish, hind tibiae brownish, stramineous at base and with the middle third mostly stramineous, their tarsi blackish with the basal fifth whitish, abdomen black, apical margin of first tergite stramineous, the apical half of the second tergite mostly reddish, the reddish color invading the basal half in the middle, third and fourth tergites mostly reddish the former with a basal black band, the latter with a basal median black mark, fifth tergite black with the lower two-thirds of the sides mostly reddish, sixth and seventh tergites with the apical margin and the lateral margin paler; areola apparently complete, truncate at base, nearly twice as long as its greatest width, finely sculptured, the petiolarea transversely costate.

*Holotype*— ♀, Saskatoon, Sask., June 5, 1923, (N. J. Atkinson); No. 1628 in the Canadian National Collection, Ottawa.

**Sagaritis xanthotaenius** n. sp.

Related to *S. apicalis* Viereck.

*Female*. Length 5 mm.; differs from the original description of *S. apicalis* Vier. as follows—Fore and mid coxae and femora and hind femora stramineous, fore mid and distal hind trochanters pale stramineous, extensor surface of fore and mid tibiae yellowish, fore tarsi stramineous, mid tarsi brownish, hind tibiae brownish with a pale base, middle third, mostly yellowish stramineous, especially pale on the extensor surface, abdomen black, a broad apical margin to the first tergite, most of the apical margin to the first tergite, most of the apical two-thirds of the second tergite, the third tergite except a basal black band, fourth mostly except a mark at base, fifth reddish, black above, sixth and seventh black, with the lateral margin pale, sheaths of the ovipositor neary twice a slong as the apical truncature of the abdomen; areola complete, nearly as wide as long, truncate at base where it is as wide as at apex, finely sculptured, petiolarea transversely costate.

*Holotype*— ♀, Lancaster, New York, 5, 9, 1889, (E. P. VanDuzee); No. 1627 in the Canadian National Collection, Ottawa.

**Sagaritis hexagonalis** n. sp.

Related to *S. conjunctiformis* Viereck.

*Male*. Length 5 mm.; compared with the original description of *S. apicalis* Vier. this differs as follows.—Scape brownish stramineous, fore and mid coxae stramineous, yellow at apex, hind coxae reddish, blackish at base, hind proximal trochanters brownish and yellowish, fore tarsi partly stramineous, mid tarsi partly brownish, flexor suface of hind tibiae mostly stramineous, their extensor surface yellowish at base then with a blackish annulus, then a yellowish

stripe, apical third mostly blackish, basal fourth of hind metatarsi yellowish, fourth, fifth, sixth and seventh tergites laterally partly reddish and apically with a stramineous margin, areola truncate at base, complete, nearly as wide as long, finely sculptured, the petiolarea transversely wrinkled.

*Holotype*—♂, Jordan, Ont., July 25, 1916, (W. A. Ross); No. 1631 in the Canadian National Collection, Ottawa.

**Sagaritis atkinsoni** n. sp.

Related to *S. hexagonalis* Viereck.

*Male.* Length 5 mm.; compared with the original description of *S. apicalis* Vier. This differs as follows.—Fore and mid coxae stramineous with a yellowish apex, the fore pair brownish at base, hind coxae black and reddish, fore and mid femora reddish stramineous, hind femora reddish, hind proximal trochanters blackish with a pale stramineous apical margin, fore and mid tarsi pale, mostly brownish, the apical joint blackish, hind tibiae brownish, whitish at base, and middle two fourths of the extensor surface also whitish, basal third of hind basitarsi whitish, abdomen with a broad reddish margin at apex of first, second, third and fourth tergites, fourth and fifth tergites with a broad reddish lateral margin, apex of fifth, sixth and seventh tergites with a pale stramineous margin, areola apparently confluent with the petiolarea and the second lateral area, truncate at base and partly transversely, coarsely wrinkled like the petiolarea.

*Holotype*—♂, Rosthern, Sask., June 26, 1923, (N. J. Atkinson); No. 1630 in the Canadian National Collection, Ottawa.

*Paratype*—♂, with the same data as the holotype.

Named in honor of the collector.

**Sagaritis beaulieui** n. sp.

Related to *S. nephelodis* Ashmead.

*Male.* Length 5 mm.; black, compared with the original description of *S. incompletus* Vier., this differs as follows.—Head normal, transverse, scape and pedicel reddish brown beneath blackish above, fore and mid tibiae with their extensor surface partly whitish, hind coxae on outer aspect near base blackish, hind proximal trochanters reddish black, hind distal trochanters yellowish, hind tibiae blackish, pale at base and with the middle two-fourths yellowish stramineous, first tergite black, stramineous at apex, second tergite mostly black, a broad apical margin and the thyridia reddish, third tergite reddish with the basal two-thirds mostly black, fourth, fifth, sixth and seventh tergites reddish, black in the middle from the base to the apical stramineous margin; areola confluent with the petiolarea, at least nearly twice as long as its greatest width.

*Holotype*—♂, near Montreal, Que., July 16, 1906, (Beaulieu); No. 1634 in the Canadian National Collection, Ottawa.

*Paratype*—♂, Kings Mountain, Que., Aug. 12, 1894, (W. H. Harrington).

Named in honor of the collector.

(To Be Continued)

# ANNOTATED LIST OF THE CERAMBYCIDAE OF PENNSYLVANIA (COLEOPTERA).

BY H. B. KIRK AND J. N. KNULL,
Pennsylvania Bureau of Plant Industry.

(Continued from page 26)

*Semanotus* Muls.

*S. lignea* Fab.—Philadelphia (C. R. Boerner); Mt. Gretna July 20 (Fisher and Kirk); Bethlehem (C. W. Caffrey); Hummelstown.

*Merium* Kby.

*M. proteus* Kby.—Jeannette June, Pittsburgh July and North East July (H. G. Klages).

*Callidium* Fab.

*C. antennatum* Newn.—A common species in May and June through the pine sections of the state.

*C. schotti* Schffr.—A common species which breeds in red cedar (*Juniperus virginiana*) and occurs where the host plant occurs.

*C. violaceum* L.—Chinchilla May 13 (H. L. Adams).

*C. frigidum* Csy.—Recorded from New York and probably will occur in Penna.

*Phymatodes* Muls.

*P. amoenus* Say.—The species breeds in dead wild grape and the adults are common in May and June where the host plant occurs.

*P. lengi* Joutel—Recorded from New Jersey and New York and probably will occur in Penna.

*P. testaceus* Lec.—Although not common, this species is generally distributed throughout the state.

*P. testaceus* var. *variabilis* L.—Occurs with the above.

*P. aereus* Newn.—Jeannette July (H. G. Klages); Harrisburg May 22 (A. B. Champlain); State College May 30 (F. C. Craighead); Manada Gap May 4.

*P. dimidiatus* Kby.—Pittsburgh June 6 (H. G. Klages).

*P. varius* Fab.—Occurs in May, June and July throughout the state.

*P. ater* Lec.—Jeannette July 2 (H. G. Klages).

*P. lividus* Rossi—One speciman marked Penna.

*Cyllene* Newn.

*C. decora* Oliv.—This species may occur in the state.

*C. caryae* Gahn.—Generally distributed throughout the state, the adults being present in April and May.

*C. robiniae* Forst.—Occurs throughout the state where the black locust (*Robinia pseudo-acacia*) is found. The adults appear in August and can be found as late as November.

*Arhopalus* Serv.

*A. fulminans* Fab.—Generally distributed throughout the state, the adults being present in June and July.

*Glycobius* Lec.

*G. speciosus* Say.—Pittsburgh June (H. G. Klages); Hughesville June 26 (P. R. Myers); Lock Haven June 15 (Davidson); Smethport July 25; Cresco; Milford; Port Allegheny; Warren; State College. This species does considerable damage to the sugar maple (*Acer saccharum*) in the state.

*Calloides* Lec.

*C. nobilis* Harris—Pittsburgh June, July and August (H. G. Klages); Lehigh Gap June 25 (G. M. Greene); Harrisburg (J. G. Sanders); State College.

*Xylotrechus* Chev.

*X. colonus* Fab.—One of our most common cerambycids found from June to Oct.

*X. sagittatus* Germ.—Pittsburgh May and June (H. G. Klages); Hummelstown July 5; Mt. Alto August 10; Charter Oak August 20; Rockville July 20.

*X. quadrimaculatus* Hald.—A rather rare species in collections but distributed over the entire state.

*X. aceris* Fisher—Adults are rather rare in collections, but the work can be found throughout the state where maple occurs. The insect does considerable damage to maple trees.

*X. undulatus* Say—S. W. Penna. (Dr. Hamilton).

*X. undulatus* var. *fuscus* Kby.—Pittsburgh June and July (H. G. Klages); Charter Oak July 11; Hummelstown June 9.

*X. annosus* Say—Two specimens, collected at Pittsburgh and Jeannette (H. G. Klages).

*X. convergens* Lec.—Jeannette May 29, June 10 (H. G. Klages); State College June 6; Harrisburg (Champlain and Knull).

*X. nitidus* Horn—Penna. (Horn Coll.); Highspire June 19 (Fisher and Kirk); Inglenook June 11.

*Neoclytus* Thoms.

*N. cordifer* Klug.—Mr. H. G. Klages informs us that he collected forty specimens of this species emerging from a stump in S. W. Penna. in June and July.

*N. scutellaris* Oliv.—Jeannette June (H. G. Klages); Lehigh Gap July 8 (G. M. Greene); Harrisburg July 15; Hummelstown June 5; Reading July 16.

*N. mucronatus* Fab.—Although not common, this species is found in June, July and August, throughout the state.

*N. caprea* Say—Found throughout the state in April, May and June.

*N. kirbyi* Auriv.—Rockville April 24 (A. B. Champlain); Lemoyne April 19 (Fisher and Kirk); Hummelstown, May 1.

*N. muricatulus* Kby.—This species has been recorded from New York and probably will occur in Penna.

*N. jouteli* Davis.—Recorded from New Jersey and Virginia and probably will occur in Penna.

*N. acuminatus* Fab.—One of our most common Cerambycids, occurring throughout the state.

*Anthoboscus* Chev.

*A. ruricola* Oliv.—A generally distributed species in May, June and July throughout the state.

*Clytoleptus* Csy.

*C. albofasciatus* Lap.—S. W. Penna. (Dr. Hamilton); Harrisburg May and June.

*Clytus* Laich.

*C. marginicollis* Cast.—Penna. (Horn Coll.); Philadelphia (J. H. Bland); Drumgold June 11 (A. B. Champlain).

*Microclytus* Lec.

*M. gazellula* Hald.—Jeannette (H. G. Klages); Philadelphia June 20 (O. I.

Elleder); State College April 24 (F. C. Craighead); Harrisburg May 11 (A. B. Champlain); Hummelstown; Manada Gap April 29.

*M. gibbulus* Lec.—Portage May 15.

*Cyrtophorus* Lec.

*C. verrucosus* Oliv.—Generally distributed throughout the state, the adults being present in May and June.

*Euderces* Lec.

*E. picipes* Fab.—Common on flowers throughout the state in June, July and August..

*E. pini* Oliv.—Wildwood May 10 (H. G. Klages).

*Tilloclytus* Bates

*T. geminatus* Hald.—Jeannette July (H. G. Klages); Rockville April 30 (A. B. Champlain); Chambersburg May 7; Philadelphia May 11; Hummelstown May 20.

*Rhopalophora* Serv.

*R. longipes* Say.—This species although never common, appears on flowers throughout the state in June and July.

*Stenosphenus* Hald.

*S. notatus* Oliv.—This species occurs throughout the state, the adults being present in April, May and June.

*Atimia* Hald.

*A. confusa* Say.—State College May 18; Hummelstown Sept. and Oct.

*Elytroleptus* Duges.

*E. floridanus* Lec.—This species has been recorded north and south of Penna. and probably will occur in the state.

*Tragidion* Serv.

*T. coquus* L.—Collingdale August 24 (G. M. Greene); Harrisburg (C. Anderson); Camphill (F. M. Trimble).

*Purpuricenus* Germ.

*P. humeralis* Fab.—Although never common, this species occurs throughout the state from May to July inclusive. It has been reared from dead mulberry (*Morus rubra*), oak, hickory, (*Alnus rugosa*) and redbud (*Cercis canadensis*) collected at Harrisburg and vicinity.

*P. axillaris* Hald.—S. W. Penna. June (H. G. Klages); Carlisle Junction July 4 (Fisher and Kirk); Inglenook (Champlain and Knull); Hummelstown May.

*Batyleoma* Csy.

*B. suturale* Say.—One of our most common species from June to September.

*Cyrtinus* Lec.

*C. pygmaeus* Hald.—S. W. Penna. June 10 (H. G. Klages); Carlisle Junction June 22 (Fisher and Kirk); Linglestown June 8 (A. B. Champlain).

*Psenocerus* Lec.

*P. supernotatus* Say.—A common species throughout the state in May, June and July.

*Monochamus* Serv.

*M. titillator* Fab.—Distributed through the pine sections of the state, the adults appearing in June and July.

*M. notatus* Drury.—Occurs with the preceding species, the adults present from July to November.

*M. scutellatus* Say.—Occurs with the preceding species, the adults being present in June and July.

*M. marmorator* Kby.—A northern species which occurs in New York and may be found in Penna.

*Dorchaschema* Lec.

*D. wildi* Uhler.—S. W. Penna. July and August (H. G. Klages); Mt. Airy July 4 (P. Laurent); State College May 8 (E. Craighead); Hummelstown June to October.

*D. alternatum* Say.—Jeannette July and August, (H. G. Klages); Glenolden June 16 (G. M. Greene); Harrisburg and Hummelstown June, July and August.

*D. nigrum* Say.—S. W. Penna. May and June (H. G. Klages); Frankford July 16 (A. Schmidt); Harrisburg and Hummelstown June, July and August.

*Hetoemis* Hald.

*H. cinerea* Oliv.—Jeannette June (H. G. Klages); Castle Rock June 30 (G. M. Greene); Harrisburg Junnelstown June, July and August.

*Cacoplia* Lec.

*C. pullata* Hald.—Jeannette July (H. G. Klages); Philadelphia (D. M. Castle); Philadelphia (H. Wenzel).

*Hammoderus* Thoms.

*H. tessellatus* Hald.—S. W. Penna. July 4 (H. G. Klages).

*Goes* Lec.

*G. tigrinus* DeG.—S. W. Penna. June (H. G. Klages); Philadelphia June (J. H. B. Bland); Rockville; Drumgold June 22.

This species found doing considerable damage to a stand of young white oaks in Perry Co. The larvae work in the trunks of living white oaks.

*G. pulcher* Hald.—The work of this beetle is quite common in living hickory saplings through the state and often serious injury occurs. The adults are present in June and July.

*G. pulverulentus* Hald.—The work of this species is common throughout the state in living blue beech (*Carpinus caroliniana*), ironwood (*Ostrya virginiana*), beech (*Fagus americana*) and oak. The adults are present in June and July.

*G. debilis* Lec.—The work is common throughout the state in living oak seedlings and saplings and often serious damage is done. The adults are present in May, June and July.

*Microgoes* Csy.

*M. oculatus* Lec.—St. Vincent June and July (H. G. Klages); Hummelstown July 5; Speeceville June 9; Charter Oak July 5.

*Plectrodera* Lec.

*P. scalator* Fab.—Jeannette June and July (H. G. Klages).

*Psapharochrus* Thoms.

*P. quadrigibbus* Say.—Pittsburgh July (H. G. Klages); Lehigh Gap July 8 (G. M. Greene); Harrisburg and Hummelstown June and July.

*Aegomorphus* Hald.

*A. decipiens* Hald.—Found throughout the state, the adults being present in

June and July.

*A. morrisi* Uhler.—According to J. H. B. Bland, two specimens of this rare beetle were collected on the wood wharves at Philadelphia by Henry Feldman.

*Leptostylus* Lec.

*L. aculifer* Say.—S. W. Penna. June and October (H. G. Klages); Harrisburg and Hummelstown June, July and August.

*L. collaris* Hald.—Pittsburgh June 17 (H. G. Klages); Rockville July 31; Harrisburg June 10.

*L. biustus* Lec.—Frankford June 3 (A. Schmidt); Wyoming July 4 (G. M. Greene); Rockville August 9; Reared June 18, from dead Norway spruce (*Picea excelsa*) branch, collected at Philadelphia.

*Astylopsis* Csy.

*A. macula* Say.—Common throughout the state, the adults being present from June to October.

*A. guttata* Say.—Jeannette June (H. G. Klages); Philadelphia July 20 (F. M. Trimble); Charter Oak June; Harrisburg June.

*Astylidius* Csy.

*A. parvus* Lec.—S. W. Penna. June (H. G. Klages); Frankford July 30 (A. Schmidt); Harrisburg and Hummelstown July and August.

*Nyssodrysina* Csy.

*N. haldemani* Lec.—This species may occur in Penna. although we have no records.

*Leiopus* Serv.

*L. variegatus* Hald.—This species occurs commonly throughout the state, the adults appearing in May, June and July.

*L. crassulus* Lec.—Recorded from N.Y. and N.J. and may occur in Penna.

*L. punctatus* Hald.—S. W. Penna. June and July (H. G. Klages); Hummelstown June 20; Reading June 3.

*L. fascicularis* Harris.—Recorded from adjoining states and sure to occur in Penna.

*L. rusticus* Lec.—Jeannette June (H. G. Klages); Manada Gap (Champlain and Knull).

*L. cinereus* Lec.—Occurs throughout the state.

*L. alpha* Say.—Harrisburg May and June (Champlain and Knull).

*L. lateralis* Hald.—Harrisburg May 27, June 15; Chambersburg June 1; Hummelstown July 6; Lewisburg May 22.

*Lepturges* Bates.

*L. symmetricus* Hald.—Occurs throughout the state, the adults being present in June, July and August.

*L. regularis* Lec.—Jeannette June 29 (H. G. Klages); Frankford July 16 (A. Schmidt).

*L. signatus* Lec.—S. W. Penna. June (H. G. Klages); Frankford June 3 (A. Schmidt); Harrisburg and Hummelstown June.

*L. querci* Fitch.—A common species throughout the state in June, July and August.

*L. facetus* Say.—S. W. Penna. May and June (H. G. Klages); Frankford

June 3, July 16 (A. Schmidt); Harrisburg May 29; Chambersburg June 8.

*Hyperplatys* Hald.

*H. maculata* Hald.—S. W. Penna. May and June (H. G. Klages); Frankford June 3 (A. Schmidt); Hummelstown May.

*H. aspersa* Say.—Hummelstown May 22; Linglestown June 22; Cresco June 9.

*Ceratographis* Gahan.

*C. biguttatus* Lec.—Penna. (Leng and Hamilton).

*Urographis* Horn.

*U. fasciata* DeG.—Common throughout the state from May to September.

*U. hebes* Csy.—Common throughout the state from June to September.

*U. triangulifera* Hald.—Jeannette June 27 (H. G. Klages).

*Graphisurus* Kby.

*G. obsoletus* Oliv.—Found throughout the pine sections of the state, the adults being present in June and July.

*G. pussillus* Kby.—Jeannette and Pittsburgh (H. G. Klages); Charter Oak June 1.

*G. nodosus* Fab.—Jeannette and Pittsburgh August and September (H. G. Klages); Philadelphia June to September (J. H. B. Bland); State College.

*Dectes* Lec.

*D. spinosus* Say.—Found throughout the state in May and July where ragweed (*Ambrosia*) occurs, in the stems of which the species breeds.

*Hoplosia* Muls.

*H. nubila* Lec.—Jeannette June, Pittsburgh July (H. G. Klages); State College May 25; Humelstown May 29.

*Pognocherus* Latr.

*P. penicellatus* Lec.—We have no records of this species from Penna. although it may occur in the state.

*P. parvulus* Lec.—Harrisburg June 24 (Champlain and Knull).

*P. mixtus* Hald.—S. W. Penna. June (H. G. Klages); Philadelphia July 17 (G. M. Greene); Harrisburg June and July (C. Anderson); Hummelstown July 15.

*Ecyrus* Lec.

*E. dasycerus* Say.—S. W. Penna. June (H. G. Klages); Frankford June 3, July 5 (A. Schmidt); Harrisburg June and July; Charter Oak August.

*Eupogonius* Lec.

*E. tomentosus* Hald.—Occurs in June and July through the pine sections of the state.

*E. vestitus* Say.—S. W. Penna. June (H. G. Klages); Wyoming July 4 (G. M. Greene); Hummelstown June, July and August.

*E. fraxini* Knull.—Hummelstown July 21, June 2; Rose Garden (A. B. Champlain).

*E. pubescens* Lec.—State College. Rockville June; Hummelstown June and July.

*E. subarmatus* Lec.—S. W. Penna. May and June (H. G. Klages). Frankford July 16, July 8 (A. Schmidt); Carlisle Junction June 27; Hummelstown June 20.

*Oncideres* Serv.

*O. cingulatus* Say.—This species occurs throughout the state, the adults ap-

pearing in August, September and October.

*Ataxia* Hald.

*A. crypta* Say.—Recorded from Penna. by Leng and Hamilton.

*Hippopsis* Serv.

*H. lemniscata* Fab.—Occurs throughout the state in June and July where ragweed (*Ambrosia*) occurs, in the stems of which the species breeds.

*Saperda* Fab.

*S. obliqua* Say.—Occurs in June and July throughout the state where the host plant alder (*Alnus*) is found.

*S. mutica* Say.—Philadelphia (H. Wenzel).

*S. candida* Fab.—One of our common fruit tree pests and occurring throughout the state.

*S. calcarata* Say.—Occurs throughout the state often doing considerable damage to poplars (*Populus*). The adults appear in July.

*S. tridentata* Oliv.—Common in June and July where elm (Ulmus) grows.

*S. cretata* Newn.—Pittsburgh and Jeannette June (H. G. Klages); Charter Oak July 22.

*S. discoidea* Fab.—Common from June to November where hickory, the host occurs.

*S. vestita* Say.—Occurring throughout the state in June and July where linden (*Tilia*) grows. This species is quite a pest in certain nurseries in the vicinity of Philadelphia where ornamental lindens are grown. The living trees are usually attacked at the bases.

*S. imitans* Felt and Joutel.—Pittsburgh June (H. G. Klages); Rockville May 20; New Cumberland June 1; Hummelstown May.

*S. lateralis* Fab.—Found throughout the state, the adults being present in June and July.

*S. fayi* Bland.—S. W. Penna. June (H. G. Klages); Milford; Cresco.

*S. puncticollis* Say.—S. W. Penna. June (.H G. Klages); Glenside June 13 (C. T. Greene); Harrisburg and Hummelstown June and July.

*S. populnea* Linn.—Philadelphia, emerged from galls on poplar from France (J. K. Primm and F. M. Trimble).

*S. populnea* var. *moesta* Lec.—Philadelphia (J. H. B. Bland).

*S. concolor* Lec.—Found in May and June where poplar (*Populus*) and willow (*Salix*) grows.

*Oberea* Muls.

*O. schaumi* Lec.—S. W. Penna. June (H. G. Klages); Hummelstown June 24; North East July 21.

*O. pallida* Csy.—A specimen was reared May 11, from Alder (*Alnus*) collected at Tunkhannock.

*O. tripunctata* Swed.—Common throughout the state in May, June and July.

*O. tripunctata* var. *mandarina* Fab.—Occurs with the above.

*O. myops* Hald.—S. W. Penna. June and July (H. G. Klages); N. Bloomfield (J. G. Sanders); Glenside June 8 (V. A. E. Daecke); Hummelstown July 4; Charter Oak; Chestnut Hill; Cresco June 9.

*O. basilis* Lec.—A common species throughout the state.

*O. bimaculata* Oliv.—Common throughout the state.
*O. affinis* Harr.—S. W. Penna, June and July (H. G. Klages); Endeavor July 29; Hummelstown July 1; Charter Oak June 22; Cresco June 9.
*O. flavipes* Hald.—This species may occur in the state.
*O. ocellata* Hald.—Charter Oak July 11; Linglestown June 7; Inglenook July 6; New Bloomfield July 18; Hummelstown June.
*O. ruficollis* Fab.—Found throughout the state in July and August.
*O. gracilis* Fab.—Jeannette (H. G. Klages); Carlisle Junction and Heckton Mills (Fisher and Kirk); Chambersburg (J. R. Stear); Manada Gap July 4.

*Tetrops* Steph.

*T. canescens* Lec.—Recorded from New Jersey and New York and may occur in the state.
*T. jucunda* Lec.—Linglestown (D. M. Castle); Chambersburg June 16 (E. M. Craighead); Blue Mt. June 28 (E. M. Craighead); Inglenook June 21; Hummelstown June 9.

*Tetraopes* Serv.

*T. canteriator* Drap.—Jeannette and North East (H. G. Klages); Lehigh Gap June 28, July 3 (G. M. Greene); Harrisburg and Hummelstown July and August.
*T. tetrophthalmus* Forst.—Common throughout the state on milkweed in June, July and August.
*T. femoratus* Lec.—Occurs in Ohio and can probably be found in Penna.

*Amphionycha* Lec.

*A. flammata* Newn.—Jeannette July (H. G. Klages); Carlisle Junction July; Hummelstown July.

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## NEW MICROLEPIDOPTERA FROM ALBERTA AND MANITOBA

BY ANNETTE F. BRAUN,
Cincinnati, Ohio.

From among several hundred specimens representing about one-hundred and ten species, which were collected principally at Nordegg, Alberta, by Dr. J. McDunnough, and at Aweme, Manitoba, by Mr. Norman Criddle, and which the writer has had the privilege of studying, the following species are described as new.

The Manitoba material is of especial interest from the point of view of geographical distribution, as amongst it are species having a very wide north-south range, and species of extended eastern and western ranges, indicating that distribution is determined by vegetation areas, rather than by life zones.

GELECHIIDAE

### **Gnorimoschema albangulata** n. sp.

Head dark brown, paler irrorated on the face; palpi dark brown, dusted with white, a white spot on upper side of third segment near base; antennae dark brown. Thorax and fore wings dark brown, with sparse minute whitish dusting; an indistinct oblique bar of whitish dusting at basal fourth; an angulate white fascia at apical fourth, its arms curved; discal and plical spots dark velvety brown, enclosed by rusty scales; a streak of rusty scales in the fold from base. Cilia paler than the wing; margin of wing just below apex marked with two clusters of white scales. Hind wings pale fuscous. Legs dark brown, minutely

dusted with white, tips of segments white. Expanse: 14 mm.

*Type*— ♂, Aweme, Man., June 12, (N. Criddle), No. 1781 in the Canadian National Collection, Ottawa.

Closely allied to *G. triocellella* Chambers, but with more uniform ground color, and distinct sharply angulated white post-medial fascia.

**Gnorimoschema vastifica** n. sp.

Head pale buff, shading to brownish posteriorly; palpi pale buff, third segment with base and a broad annulus just before tip brownish; antennae fuscous, narrowly annulate with white. Costal margin of fore wing pale buff, rest of wing brownish ocherous, with darker, more reddish spots and oblique bars, and a few pale buff spots. From near base of costa and from basal fourth of costa, oblique reddish bars pass into the brownish ocherous ground color; extending from three-fourths of costa to apex, a row of four reddish ocherous spots, separated from one another by clear buff spots. In the brownish ocherous part of the wing, the more conspicuous reddish spots are the somewhat obliquely placed discal spots at middle and end of cell, and a large plical spot just before first discal, preceded and followed by clear buff spots. Apical third of wing dusted with pale buff. Costal cilia pale buff, terminal reddish tinged. Hind wings pale, faintly reddish tinged. Legs pale buff, with large dark brown patches above. Expanse: 16.5 mm.

*Type*— ♀, Aweme, Man., July 9, (N. Criddle); No. 1780 in the Canadian National Collection, Ottawa.

Nearest to *G. florella* Busck, but with different palpal markings and entire absence of black scales on the fore wing.

**Gelechia mandella** Busck.

In a large series of specimens of this species, collected by Dr. J. McDunnough at Nordegg, Alberta, during July and August, 1921, there is a variation from an entire lack of the roseate tinge to a complete suffusion of all pale areas and scales with deep rose. The deep rose suffusion is more marked in the females, and in some of these, the discal spots are ringed with pink.

Of this series, four specimens are labeled "Bred from larva on willow."

OECOPHORIDAE

**Agonopteryx cogitata** n. sp.

Head dark brown, face white; labial palpi dark brown, with paler mottling; third segment thickened with scales, tip white; antennae dark brown. Thorax white, with anterior margin and base of tegulae black. Fore wings white; costal margin marked with small black dots; a few fine broken black transverse strigulae, one or two irregularly crossing the wing. On middle of costa, a large dark patch reaching to middle of wing and to end of cell, composed of mingled bluish grey, back, and brownish ocherous scales. Just anterior to this, on middle of cell, is a conspicuous obliquely placed, curved black bar. A row of five black dots around apex nearly to termen. Cilia bluish gray. Hind wings pearly gray; a row of blackish dashes at base of cilia along termen. Anterior legs black, segments white-tipped; posterior legs white inwardly, outwardly densely dusted with dark fuscous, segments white-tipped. Abdomen white above, fuscous beneath, with three longitudinal rows of black dots. Expanse: 16 mm.

*Holotype*— ♂, Aweme, Man., June 23, (N. Criddle); No. 1779 in the

Canadian National Collection, Ottawa.

*Paratype*—♀, Waterton Lakes, Alta., July 12, (J. McDunnough).

Nearest to *A. canella* Busck, but differing from it in the white apical part of the wing and the black anterior border of the thorax.

ELACHISTIDAE

**Tinagma leucaspis** n. sp.

Labial palpi white, dusted with gray, sometimes almost pure white above. Thorax whitish, dusted with black. Fore wings clothed with white scales, dark-tipped white scales, and dark fuscous scales, which are grouped to form more or less sharply defined spots and fasciae. Base of wing and costal and dorsal margins to one-third minutely whitish and gray dusted; beyond is a broad transverse dark fuscous fascia, convex and sharply defined outwardly and bordered outwardly by pure white scales. At the basal third of the wing and over the fold is a white patch; the scales in its center are pure white, those on its edges dark-tipped. The pure white is sometimes confined to the interior of the wing, sometimes extends to the dorsal margin; rarely the darker-tipped scales of the patch reach the costal margin; the white patch thus defines the fascia on its inner edge. Beyond the median dark fascia is an area of white and dark-tipped white scales, one or the other predominating in different specimens. At three-fourths, a second dark transverse shade, convex inwardly; on the middle of the wing, within this shade, is a large circular darker fuscous spot, sometimes narrowly but distinctly outlined with white; beyond this dark shade, the wing is white, dusted with gray. Sometimes all that remains of the dark transverse shade is the circular dark spot, which is then very conspicuous. Cilia gray, with scattered white- and black-barred scales. Hind wings gray, irrorate with fuscous. Legs white, fuscous dusted. Abdomen dark fuscous, posterior margins of segments beneath whitish. Expanse: 11.5—12.5 mm.

*Holotype*—♂, Aweme, Man., June 3, (N. Criddle); No. 1783 in the Canadian National Collection, Ottawa.

*Paratypes*—7♂, 1♀, Aweme, Man., June 1, 3, 13, (N. Criddle).

The white patch at basal third, and the circular spot at apical fourth, when this is distinct, easily separate this species from the others of the genus.

EPERMENIIDAE

**Epermenia bidentata** n. sp.

Head whitish, shaded with pale grayish scales, labial palpi gray, minutely irrorated with white; antennae fuscous. Thorax whitish, with gray dusting. Fore wing with two dorsal scale-teeth; ground color above the fold mixed pale fuscous and brownish ocherous, the fuscous predominating; each scale minutely tipped with white. Wing below the fold more nearly white, marked with irregularly placed transverse blackish strigulae. From beyond basal third of dorsum an outwardly oblique, fuscous-marked, brownish ocherous bar diffuses above into the ground color; its outer margin is rather sharply defined by fuscous and blackish scales; the first and larger dorsal scale-tooth lies at its dorsal extremity. The second dorsal scale-tooth lies a little beyond the middle of the wing. Four black dots in a line through the middle of the wing; the first near base, the third sometimes preceded by an additional minute black dot, the fourth at the end of the cell by far the largest and sometimes

the only distinct one. Clusters of darker scales form ill-defined spots around the apex. In the female the entire basal third of the wing is whitish and there is a faint indication of a third dorsal scale-tooth. Cilia concolorous with the wing; tips darker along termen. Hind wings gray. Legs fuscous, tips of segments whitish. Expanse: 15 mm.

*Holotype*—♂, Aweme, Man., June 11, (N. Criddle); No. 1785 in the Canadian National Collection, Ottawa.

*Paratypes*—5♂, 1♀, Aweme, Man., June 4, 12, (N. Criddle).

The distinctive characteristic of this species is the presence of only two dorsal scale-teeth.

### **Epermenia infracta** n. sp.

Head and thorax gray, with some whitish dusting; labial palpi gray, irrorated with white, extreme tip of second segment and inner side and apex of third segment white; antennae fuscous. Fore wings dull white, marked with blackish and fuscous costal and dorsal strigulae, which rarely cross the wing in irregular lines, and clouded with pale fuscous shades, which in the middle of the wing form an ill-defined oblique transverse band broadest on costa and passing from middle of costa to basal third of dorsum. A second scarcely defined narrower and more oblique band passes from costa near apex to tornus. A brownish ocherous streak in the fold near base; a second in the fold on the first transverse band, and a third in the cell obliquely above the second. A black spot on the disk before the middle; a second at the end of the cell. Four small dorsal scale-teeth, the first at basal third at the inner margin of the transverse band, the three following progressively smaller. Two clusters of darker scales before apex on costa; a third at the apex; three clusters more closely spaced below apex on termen. Cilia whitish gray, with two parallel darker lines beginning opposite the apex. Hind wings pale gray. Legs white, dusted with gray, segments blackish toward tips. Expanse: 16-19 mm.

*Holotype*—♀, Nordegg, Alta., June 17, (J. McDunnough); No. 1784 in the Canadian National Collection, Ottawa.

*Paratype*—♀, Nordegg, Ata., July 14, (J. McDunnough).

This species is separated from its nearest allies, *E. circutaella* Kearfott and *E. alameda* Braun, by the almost total absence of brownish shades and by the two parallel unbroken ciliary lines.

TINEIDAE

### **Tinea irrepta** n. sp.

Head brownish ocherous, antennae more grayish, with the basal segments darker, purplish. Thorax brownish ocherous, basal half of tegulae dark purplish fuscous. Fore wing brownish ocherous, costal area above the cell overlaid with dark purplish fuscous to the middle of the wing; purplish fuscous scales are evenly scattered over the entire apical half of the wing; the dorsobasal area is comparatively free from dark dusting. Occasionally, the dusting covers the entire wing surface and then, the dark costal stripe and the dark markings are paler and more diffuse. First discal spot small, in the middle of the cell near its upper margin, second discal large, dark purplish, one-third the breadth of the wing. Plical spot at two-thirds of fold usually elongate, sometimes

roundish and broadening to touch the lower margin of the cell. Sometimes a more or less clearly defined short dark streak from near base just below fold. Cilia a little paler than the wings. Hind wings pale brownish ocherous, with very little gray tinge and almost concolorous with the paler parts of the fore wings. Legs pale ocherous, the anterior pair shaded with purplish fuscous. Expanse: 20-22 mm.

*Holotype*—♂, Nordegg, Alta., July 13, (J. McDunnough); No. 1782 in the Canadian National Collection, Ottawa.

*Paratypes*—2 ♂, Nordegg, Alta., July 31, August 1, (J. McDunnough); 1 ♂, Lethbridge, Alta., July 12, (H. L. Seamans).

A rather clearly marked species of the *fuscipunctella* group.

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## THE STATUS OF GYRINUS PICEOLUS BLATCHLEY (COLEOPTERA)

BY J. B. WALLIS,

Department of Zoology, University of Manitoba.

*Gyrinus piceolus* described by Professor W. S. Blatchley on page 240 of the "Coleoptera of "Indiana," was suppressed by Dr. H. C. Fall as a synonym of *pernitidus* Lec. (The North American species of Gyrinus, Transactions of the American Entomological Society, XLVII, p. 297).

Some time ago, among a number of specimens sent by Mr. M. H. Hatch, two ♂'s were found that could not be placed by Dr. Fall's table, and which appeared to be *piceolus* Blatch. They were referred to Dr. Fall, who replied that they were either *piceolus* or a new species, and further stated that, in the light of this additional material, it appeared that he might have been too hasty in suppressing Blatchley's species. Dr. Blatchley has recently compared one of these specimens with his type of *piceolus* and pronounces them identical.

While resembling *pernitidus* Lec., very closely, *piceolus* is undoubtedly distinct. It appears to be somewhat less convex, and has the hypomera and epipleura rufous. The clearly distinguishing character lies, however, in the ♂ genitalia, the middle lobe of which, compared with that in *pernitidus*, is distinctly more spatulate, the width at apex being greater than that of a lateral lobe, and the tip being broadly rounded. The superior basal longitudinal groove extends further towards the tip, so that a median carina comparable with that in *pernitidus* does not exist, though the broadened tip is feebly roof-shaped and the faint median elevation is traceable by oblique light to the extreme apical edge.

Dr. Fall's figure, (number 7) of the genitalia of *marginellus* would serve fairly well for that of *piceolus*, if one imagines a somewhat greater constriction of the middle lobe, and a slightly more gentle rounding of its apex.

*Piceolus* Blatch would fall in couplet 19 of Dr. Fall's paper cited above, but can be at once separated from the species given there by the surface being neither micro-punctulate nor with striolae.

# NOTES ON WALKER'S TYPES OF NORTH AMERICAN MYCETOPHILIDAE (DIPTERA).

BY C. A. JOHANNSEN,
Ithaca, N.Y.

Among the Mycetophilidae listed in the manuscript of the forthcoming Catalogue of the Insects of New York State there are several which have not been recognized since they were first dscribed. On a recent visit to London I have therefore taken advantage of the opportunity to examine the types of the North American species in the British Museum. For courtesies shown I am under obligations to Major E. Austen and Mr. F. W. Edwards.

In the following paragraphs the abbreviation "List I" refers to "List of the specimens of Dipterous Insects in the collection of the British Museum. "Part I." The number following the word "List" refers to the page. The abbreviation "Bul." has reference to the Bulletins of the Maine Agricultural Experiment Station. The first number following the abbreviation refers to the number of the bulletin, the second to the page. The species listed below are arranged in nearly the order in which they appear in the bulletin noted above.

*Hesperinus brevifrons* Walker, List I: 81. As I have already stated elsewhere this genus belongs with the Bibionidae. The species agrees with my interpretation of it (Bul. 172, 221).

*Polylepta grisea* Walker, List I; 92. The type is a defective specimen gummed to a card, the abdomen covered with glue. The fore legs are wanting It is apparently a female specimen.

*Diomonus nebulosus* Walker, List I: 87. The spurs are on the middle, not hind femora. The bluish tinge of the abdomen is not very evident. The species is correctly placed in my key (Bul. 180: 154).

*Leia unicolor* Walker, List I: 93. This species belongs to the genus *Mycomyia*. The type is a female and will find a place in my key (Bul. 180: 169) with var. b. *mendax* from which it may be distinguished by the more or less yellow color of thorax and abdomen. There is but a trace of a median thoracic stripe.

*Leia varia* Walker, List I: 93. This species is correctly placed in my key (Bul. 196:278).

*Leia trifasciata* Walker, List I: 93. This is correctly placed as a synonym of *L. Winthemii* Lehmann.

*Mycetophila bifasciata* Walker, List I: 96. This belongs to the genus *Dynatosoma*. My *D. nigrina* (Bul. 200:75) must be placed as a synonym. The yellow humeral spots are very small and the apical wing spot is distinct.

*Mycetophila contigua* Walker, List I: 96. The type is a female specimen. It goes to *M. foecunda* Joh. (Bul. 200: 86) in the key but differs in having only a trace of spots on the media. The fore basitarsus is ⅞ the tibia in length.

*Mycetophila despecta* Walker, List I: 101. This species is a *Phronia*. The type specimen is so gummed on a card that the specific characters cannot well be determined without relaxing the specimen.

*Mycetophila laeta* Walker, List I: 97. The genitalia are retracted in the specimen. The species may be distinguished from *M. fallax* Joh. (No. 29, Bul. 200, 97) by its yellow thorax with three pale brown stripes. There are three

setae on the flexor surface of the middle tibia and two ranges on the extensor surface of the hind tibia. The wing picture resembles figs. 205 and 210 (Bul. 200).

*Mycetophila obscura* Walker, List I: 101. All that remains of the single type specimen are fragments consisting of wings and legs gummed on cards. It is apparently a *Phronia*.

*Mycetophila parva* Walker, List I: 97. This species goes to *imitator* (Bul. 200:87) but the wing picture is more like fig. 202 (Bul. 200). The preapical mark scarcely passes beyond the first branch of the media. The fore basitarsus is scarcely 0.8 as long as the tibia.

*Mycetophila plebeja* Walker, List I: 110. This species belongs to the genus *Exechia*. The specimen lacks abdomen and legs.

*Mycetophila propinqua* Walker, List I: 96. This species is incorrectly placed in my key (Bul. 200: 87, No. 33). The tip of the abdomen and the hind legs are lacking in the type specimen. The middle tibia has one small and three large setae on the flexor surface. It may be distinguished from related forms by its having but two thoracic vittae. It will find a place in my key either near No. 8, or near Nos. 26 and 27 (Bul. 200:87).

*Sciara abbreviata* Walker, List I: 109 and *perpusilla* Walker, List I: 106. These are defective specimens gummed to cards. There are two specimens of the second species.

*Sciara lurida* Walker, List I: 106, and *S. punctata* Walker, List I: 106. One female specimen of each. They both resemble *S. prolifica* Felt.

*Sciara robusta* Walker, List I: 105. Of this species there are several female specimens related to *S. abdita* Joh. though distinctly larger.

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## BUTTERFLIES OF CALIFORNIA.

This important work, which is being published by Dr. John Adams Comstock, bears promise of issuance in about three months. When completed it will contain over sixty full page colored plates, and numerous half-tone and line illustrations. Fifty-one of the color plates are completed at the present writing, which carries the work as far as the Lycaeninae.

Numerous sets of these plates, which included Nos. 2 to 38 were distributed to the important Libraries, Museums and specialists in the United States and Canada, where they are available to students. One set is available for reference in the Library of the Entomological Branch at Ottawa. Individual plates may be purchased from Dawson's Book Shop, 627 So. Grand Avenue, Los Angeles.

The author, who for six years has been the Director of the Southwest Museum, Los Angeles, has resigned from that position and re-entered the practice of medicine. He will retain the post of Honorary Curator of Entomology in the Museum, and also his numerous other scientific connections including that of Instructor in Anatomy at Occidental College. This will, it is hoped, place greater time at his disposal for research in his chosen field.

Mr. Charles L. Haskell succeeds Dr. Comstock as Director of the Southwest Museum.

Mailed Saturday, February 27th, 1926.